

Application No.: 10/501,582
Amendment dated: February 6, 2006
Reply to Office Action of: OCTOBER 6, 2005
Atty. Ref.: 010100-120

REMARKS

This is in response to the Office Action dated OCTOBER 6, 2005.

In the Office Action, claims 1-56 are noted as pending in the application, claims 1-56 stand rejected. No claims are objected to and no claims are allowed. Various claims are amended as noted above, and claims 31 and 47-56 have been canceled without prejudice.

Prior Art

The Examiner notes that the listing of prior art fin assemblies in Table 1 (and Table 2) of the Specification is not a proper information disclosure statement. A table showing the dimensions of the listed designs is attached to a Second Information Disclosure Statement filed concurrently herewith. Additionally, a copy of an Australian publication is also enclosed with the IDS. Applicant respectfully requests that these items of information be considered and that their consideration be made of record.

Informalities

On pages 10 (line 31), 11 (line 16), and 16 (lines 26 & 30), "manoeuvrable" has been changed to "maneuverable".

Rejections on the Prior Art

In the Office Action, claims 1-46 and 54-56 are rejected under 35 U.S.C. 102(b) as being allegedly anticipated by AU9170912 A (WEBERLING). The reference is listed on the IDS filed concurrently herewith, and a copy of the reference is attached thereto.

According to the Examiner, Weberling shows a fin assembly for a surf craft, having a primary fin [12] and a secondary fin [16] extending from a base [15], each fin having respective primary and secondary leading edges, as well as primary and secondary trailing edges. The Office Action says that the base and the fins are

integrally formed, wherein the base extends longitudinally between the leading primary edge and the trailing secondary edge. The leading and trailing edges of the fins are aligned. The trailing primary edge and the leading secondary edge are joined by an intermediate arcuate edge defined by the base. The fins include respective pairs of opposite faces that extend between the leading and trailing edges.

Additionally, according to the Office Action, as to claim 13, Weberling has the leading primary edge is curved substantially complementarily to the leading secondary edge. As to claim 16, Weberling has the fins made of aluminum, and therefore, are inherently capable of certain degree of deformation if exposed to extreme hydrodynamic forces during use. As to claims 17-34, the Examiner interprets the limitation "lobe" as meaning "a projection." As such, Weberling's secondary fin is alternatively considered to be a "first lobe T assembly additionally comprises a "second lobe" disposed behind the primary fin (see annotated drawing in the Office Action). Both the first and second lobes extend rearwardly from the base the first lobe having a lobe edge, a tangent to which is parallel to the plane.

According to the Office Action regarding claim 22, the second lobe is underlying the leading and trailing edges of the primary fin. As to claim 35, the Examiner asserts that a sectional area of the feathered portion appears to be greater than $0.2x$ of the combined total sectional area defined by the base, the primary fin and the secondary fin. As to claims 38-41, the steps recited in the method claims are asserted to be inherent in the construction and a subsequent use of the fin.

The Examiner asserts that the figure shown in the Office Action demonstrates that at least half of the exposed area of the assembly appears to be within a third depth of the fin, and the ratio of the exposed area to the peripheral edge appears to be less than 23.

Claims 47-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over AU9170912 A WEBERLING. According to the Examiner, Weberling shows a fin assembly having primary and secondary fins extending from a base. The Examiner

notes, however, that Weberling does not disclose expressly the assembly as having a sectional area of about 90-95 sq. cm., or the perimeter of the area being greater than about 400 mm.

Applicants' Disclosure

Consider first Applicants' disclosure. Referring to Figure 1, there is illustrated an integrally formed fiberglass fin assembly 1 including a base 2 – that is defined by broken lines 3 and 4 – for mounting the assembly to an object in the form of a surfboard 5. A primary fin 6 extends upwardly from base 2 – in that it extends upwardly from line 3 – and has a compound arcuate leading primary edge 7 and a compound arcuate trailing primary edge 8. A secondary fin 9 extends rearwardly and upwardly from base 2 – in that it extends from line 4 – and has a compound arcuate leading secondary edge 10 and a compound arcuate trailing secondary edge 11. In the example shown, the secondary fin 9 is smaller than the primary fin 6. Additionally, as shown, the primary fin is forward of the secondary fin. In this embodiment, the arcuate form of the leading primary edge 7 and leading secondary edge 10 are substantially the same, although scaled for the different heights of fins 6 and 9. It will be appreciated that for surf craft, the height of the fin is referred to as its depth.

All of edges 7, 8, 10 and 11 are aligned, in that they lie within a common longitudinally extending plane 19. In this embodiment, and as best shown in Figure 2, plane 19 is normal to surface 16 of board 5. As shown in Figure 1, fin 6 includes an uppermost point 23, while fin 9 includes an uppermost point 24 (in use, points 23 and 24 will typically define the lowermost points of the respective fins). The height of point 23 from base 2 – that is, the depth of fin 6 – is greater than that of tip 20, while the height of point 24 from base 2 – that is, the depth of fin 9 – is greater than that of tip 21. This results in edge 7 over wrapping the adjacent portion of edge 8. This is referred to as a feathering of edge 8.

These and other features described in the specification of the embodiment of Figure 1 – that is, the larger proportion of the total surface area at or near the surface of

the surf craft, the greater longitudinal length, and the longer peripheral edge – allows assembly 1 to provide the surfer or other surf craft user greater turning potential, without having to compromise control. In comparison to prior art fin assemblies, assembly 1 allows the surf craft to undertake turns about a smaller arc – or about the same arc, but with less input required from the surfer. In effect, assembly 1 allows the surf craft to be more maneuverable. The extended length of the fin assembly adjacent to the surf craft provides sufficient sectional area to allow the surface to gain sufficient purchase against the water when executing a turn. [See, Applicants' Specification, page 7, lines 3-14, page 8, lines 4-16 and page 10, line 25, through page 11, line 4.] The smaller secondary fin aft of the primary fin effectively lengthens the fin assembly as a whole, resulting in greater water trapping and retention adjacent the interface between the fin assembly and the surfcraft. This results in greater drive and stability, in a manner not achieved with two fins oriented in reverse of this, and does not sacrifice maneuverability.

Cited Reference Weberling

Weberling discloses a fin assembly 10 having an auxiliary fin 16. The fin assembly is intended to be buoyant relative to the water so that if the fin disengages from the board, the fin may still float. The auxiliary fin 16 is forward of the fin edge 12 and web 13.

The Claims

Consider now the claims in the application. None of the cited references teach or suggest the claimed combinations. For example, claim 1 is an independent apparatus claim reciting in part:

“a larger fin extending from the base . . . ; and
“a smaller fin extending from the base . . . , the smaller fin trailing
the larger fin.”

None of the cited references taken singly or in combination teach or suggest the claimed combination, the recited elements quoted above, or the “the smaller fin trailing

the larger fin". The smaller fin trailing the larger fin results in greater drive and stability, in a manner not achieved with two fins oriented with the larger fin trailing the smaller fin, without sacrificing maneuverability. Clearly claim 1 is patentable over the cited references.

The claims 2-11 are dependent directly or indirectly from independent claim 1 and are asserted as being patentable for the same reasons as discussed above with respect to claim 1, for the additional combinations in the dependent claims as well as for the additional limitations recited in the dependent in claims. Note in particular claim 5 recited in part "wherein the base extends longitudinally between the leading primary edge and the trailing secondary edge." Note also claim 6 reciting in part "wherein the trailing primary edge and the leading secondary edge are joined by an intermediate arcuate edge defined by the base." Claim 7 recites in part "wherein the arcuate edge is of varying radius." Claim 10 recites in part "wherein the fins include respective pairs of opposite faces that extend between the leading and trailing edges."

Claim 12 is an independent apparatus claim reciting in part:

"a larger fin extending from the base and having a leading primary edge and a trailing primary edge; and

"a smaller fin extending rearwardly . . . , the smaller fin trailing the larger fin."

None of the cited references taken singly or in combination teach or suggest the claimed combination, the recited elements quoted above, or the "the smaller fin trailing the larger fin". Claim 12 is also patentable over the cited references. A craft with the recited structure results in greater drive and stability without sacrificing maneuverability. Claim 13 is dependent directly or indirectly from independent claim 12 and are asserted as being patentable for the same reasons as discussed above with respect to claim 12, for the additional combinations in the dependent claims as well as for the additional limitations recited in the dependent in claim.

Claim 14 is an independent apparatus claim reciting in part:

"a larger fin extending from the base . . . and a high rake; and
"a smaller fin extending rearwardly from the base . . . edge, the smaller fin
trailing the larger fin."

None of the cited references taken singly or in combination teach or suggest the claimed combination, the recited elements quoted above, or the "the smaller fin trailing the larger fin". Claim 14 is also patentable over the cited references, and the fin assembly provides for greater drive and stability.

The claims 15-16 are dependent directly or indirectly from independent claim 14 and are asserted as being patentable for the same reasons as discussed above with respect to claim 14, for the additional combinations in the dependent claims as well as for the additional limitations recited in the dependent claims. Note claim 16 "wherein the smaller fin is, in use, deformable in a direction normal to the plane."

Claim 17 is an independent apparatus claim reciting in part:

"a primary fin that extends from the base and which has a leading edge and a trailing edge that meet at a tip, where the edges lie substantially within a common plane; and
"a secondary fin extending rearwardly from a rear of the base, the secondary fin, having an edge that has a tangent that is parallel to the plane."

None of the cited references taken singly or in combination teach or suggest the claimed combination, the recited elements quoted above, or the "a secondary fin extending rearwardly from a rear of the base, the secondary fin, having an edge that has a tangent that is parallel to the plane". Significantly, the primary reference has a primary fin extending rearwardly from a rear of the base rather than a secondary fin.

Claim 18 is an independent apparatus claim reciting in part:

"a primary fin that extends from the base and which has a leading edge and a trailing edge that meet at a tip; and
"a secondary fin extending rearwardly from a rear of the base, the secondary fin, having an edge that has a tangent that is parallel to the surface."

None of the cited references taken singly or in combination teach or suggest the claimed combination, the recited elements quoted above, or "a secondary fin extending rearwardly from a rear of the base". The primary reference has a primary fin extending rearwardly from a rear of the base rather than a secondary fin.

The claims 19-34 are dependent directly or indirectly from independent claim 19 and are asserted as being patentable for the same reasons as discussed above with respect to claim 18, for the additional combinations in the dependent claims as well as for the additional limitations recited in the dependent in claims. Note claim 24 reciting in part "wherein the trailing edge is feathered in an area intermediate of the secondary fin and the leading edge." Note also claim 25 reciting in part "wherein the trailing edge and the secondary fin are joined by an intermediate arcuate edge defined by the base." Claim 26 recites in part "wherein the arcuate edge is of varying radius." Claim 29 recites "wherein one or both of the faces are substantially planar."

Claim 35 is an independent apparatus claim reciting in part:

"a smaller fin extending from the base, the smaller fin trailing the large fin, wherein the base, the primary fin and the secondary fin include a combined total sectional area (A_f); and

"a feathered portion between two or more of the primary fin, the secondary fin and the base, wherein the feathered portion includes a sectional area (A_p) where $A_p > 0.2.A_f$."

None of the cited references taken singly or in combination teach or suggest the claimed combination, the recited elements quoted above, or the "the smaller fin trailing the large fin" or the "feathered portion between two or more of the primary fin, the secondary fin and the base." The primary reference has the larger fin trailing the smaller fin. Clearly claim 35 is patentable over the references. The claims 36-37 are dependent directly or indirectly from independent claim 35 and are asserted as being patentable for the same reasons as discussed above with respect to claim 35, for the additional combinations in the dependent claims as well as for the additional limitations recited in the dependent in claims.

Claim 38 is an independent apparatus claim reciting in part:

"forming a larger fin that extends from the base . . . ; and

"forming a smaller fin that extends from the base and which has a leading secondary edge and a trailing secondary edge, such that in use the smaller fin trails the larger fin."

None of the cited references taken singly or in combination teach or suggest the claimed combination, the recited elements quoted above, or the "such that in use the smaller fin trails the larger fin". None of the references in use have a smaller fin trailing the larger fin.

The claims 39-41 are dependent directly or indirectly from independent claim 38 and are asserted as being patentable for the same reasons as discussed above with respect to claim 38, for the additional combinations in the dependent claims as well as for the additional limitations recited in the dependent in claims.

Claim 42 is an independent apparatus claim reciting in part:

"a larger fin extending from the base and away from the surface; and

"a smaller fin extending from the base, the smaller fin trailing the larger fin wherein a high proportion of A is near the surface."

None of the cited references taken singly or in combination teach or suggest the claimed combination, the recited elements quoted above, or the "the smaller fin trailing the larger fin wherein a high proportion of A is near the surface". None of the references have a smaller fin trailing a larger fin.

The claims 43-46 are dependent directly or indirectly from independent claim 42 and are asserted as being patentable for the same reasons as discussed above with respect to claim 42, for the additional combinations in the dependent claims as well as for the additional limitations recited in the dependent in claims.

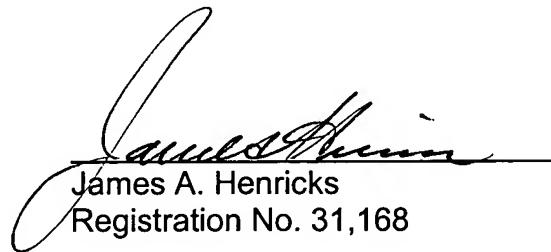
Reconsideration of the application and claims in view of the foregoing amendments and remarks is respectfully requested. Early notice of allowance thereof is earnestly solicited.

Please charge any additional fees that may be due or credit any overpayments to our deposit Account No. 50-0655. A duplicate copy of this document is enclosed.

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This response is being filed with a Petition for a One-Month Extension of Time and a Second Information Disclosure Statement.

Respectfully submitted,



Jámes A. Henricks
Registration No. 31,168

HENRICKS, SLAVIN & HOLMES LLP
840 Apollo Street, Suite 200
El Segundo, CA 90245-4737
310-563-1456
310-563-1460 (fax)
jhenricks@hsh-iplaw.com (Email)